

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Canceled)
2. (Currently amended) A pharmaceutical composition for oral delivery of a cephalosporin comprising:
  - a) ~~a biopolymer~~ composition consisting of;
    - (i) a biopolymer;
    - (ii) ~~b) an antimicrobial agent consisting of a~~ at least one cephalosporin, wherein the antimicrobial agent is entrained within or ionically bound to the biopolymer;
    - (iii) ~~e) a~~ at least one metal cation entrained within or ionically bound to the biopolymer or the cephalosporin; and
  - b) ~~d)~~ an absorption enhancer.
3. (Previously presented) The pharmaceutical composition of claim 2 wherein the biopolymer is selected from the group consisting of carrageenan, xylan, chitin, chitosan, chondroitin sulfate, sodium alginate, carboxymethylcellulose, pectin, polysaccharides, polypropylene glycols, polyethylene glycols, polyacetates, liposomes, fatty acid complexes, cyclodextrins, cycloamyloses, clathrates, cycloalkyl amyloses, polyxylose, polylactic acids and combinations thereof.
4. (Canceled)
5. (Currently amended) The pharmaceutical composition of claim 2 wherein the cephalosporin is selected from the group consisting of ceftiofur, cefipime, cefixime, cefoperazone, cefotaxime,

cefepodoxime, ceftazidime, ceftizoxime, ceftriaxone, cefpirome, cefclidin, cefmenoxime, cefozopran, and combinations thereof.

6. (Withdrawn) The pharmaceutical composition of claim 4 wherein the aminoglycoside is selected from the group consisting of amikacin, gentamicin, tobramycin, polymixin-B, streptomycin, kanamycin and combinations thereof.

7. (Withdrawn) The pharmaceutical composition of claim 4 wherein the glycopeptide is selected from the group consisting of vancomycin, dalbavancin, oritavancin and combinations thereof.

8. (Withdrawn) The pharmaceutical composition of claim 4 wherein the carbapenem is selected from the group consisting of meropenem, imipenem, MK0826, R-115,685, J-114,870 and CP5068.

9. (Withdrawn) The pharmaceutical composition of claim 4 wherein the monobactam is aztreonam or carumonam.

10. (Withdrawn) The pharmaceutical composition of claim 4 wherein the penicillin is piperacillin or amoxicillin.

11. (Withdrawn) The pharmaceutical composition of claim 4 wherein the glycopeptide is vancomycin.

12. (Previously presented) The pharmaceutical composition of claim 5 wherein the cephalosporin is ceftriaxone.

13. (Withdrawn) The pharmaceutical composition of claim 4 wherein the lipopeptide is daptomycin.

14. (Previously presented) The pharmaceutical composition of claim 2 wherein the metal cation is selected from the group consisting of calcium, magnesium, lithium, iron, copper, zinc, aluminum, manganese, chromium, cobalt, nickel, and combinations thereof.

15. (Previously presented) The pharmaceutical composition of claim 12 wherein the metal cation is calcium.

16. (Previously presented) The pharmaceutical composition of claim 12 wherein the metal cation is zinc.

17. (Previously presented) The pharmaceutical composition of claim 2 wherein the metal cation is ionically bound to the biopolymer forming a metal cation-biopolymer complex and the cephalosporin is contained within the metal cation-biopolymer complex.

18. (Previously presented) The pharmaceutical composition of claim 2 wherein the metal cation is ionically bound to the cephalosporin forming a metal cation-cephalosporin complex and the metal cation-cephalosporin complex is contained within the biopolymer.

19. (Previously presented) The pharmaceutical composition of claim 2 wherein the metal cation is complexed to the cephalosporin and the metal cation is further ionically bound to the biopolymer forming a cephalosporin-metal cation-biopolymer bridge.

20. (Previously presented) The pharmaceutical composition of claim 2 wherein the biopolymer is carrageenan or pectin.

21. (Previously presented) The pharmaceutical composition of claim 15 or 20 wherein the carrageenan has a calcium content of less than about 0.4% by weight.

To: Director John LeGuyader  
RE: Director Signature in Application 09/888114  
From: Zachariah Lucas

In the present application, I have rejected claims that read on a pharmaceutical composition comprising 4 elements. The present claims specifically require that the composition comprises a cephalosporin in addition to a biopolymer, and cationic metal, and an absorption enhancer. A prior patent was issued from a parent case (U.S. Patent 6,248,360) claims a genus of similar compounds (but does not specifically recite the absorption enhancer), and identifies the cephalosporins in the dependent claims. See e.g., claims 1 and 9-11 of the patent.

I previously rejected the present claims based on prior art in a 103 rejection. I believe that the rejection still stands. However, in view of certain arguments and amendment by the Applicant, I restated it to take into consideration additional teachings in the art. As the present claims read on a species of the patented claims, the rejection conflicts with the patent, necessitating a Director's signature.

Thank you,  
Zac Lucas  
AU 1648  
2-0905

Applicant : Choi et al.  
Serial No. : 09/888,114  
Filed : June 22, 2001  
Page : 6 of 10

Attorney's Docket No.: 19916-003001 / C069 CPC US

22. (Previously presented) The pharmaceutical composition of claim 2 wherein the biopolymer is carrageenan, the cephalosporin is ceftriaxone, the metal cation is calcium and the absorption enhancer is a non-ionic surfactant.

23 to 41 (Canceled)

42. (Previously presented) The pharmaceutical composition of claim 1, wherein the cephalosporin is a third generation cephalosporin.